

Nephrologists sans frontières: the return to Beirut

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My interest in the kidney was kindled by my close friend Fuad Ziyadeh. Together, as medical students at the American University of Beirut, we read the textbooks by Leaf and Cotran and by Schrier, and Brenner and Rector's first edition of *The Kidney*. At that time, the war in Lebanon (1975–1990) was raging. Medical journals arrived in a batch every six months or so. In one of those crates, I came across a monograph by Christine Baylis and Barry Brenner,¹ which changed my life. This exposition of the determinants of glomerular ultrafiltration embodied the superb talents of the authors as experimental nephrologists, teachers and masters of scientific literary writing. Little did I know at the time the determining roles that Chris and Barry were to play in my professional life.

My own crossing of frontiers started in 1979, when, as a fourth-year medical student, I was encouraged by my nephrology professor to explore the mechanisms underlying the reduction in glomerular filtration rate during glomerulonephritis. Realizing that Brenner and his team were now at Harvard, I applied and was fortunate to receive an acceptance to spend four months at his laboratory at the Peter Bent Brigham Hospital, and then to return for fellowship training at the completion of my residency in 1982. I spent the following 18 years of my life in academic nephrology at Harvard, Vanderbilt and Emory Universities. Throughout my years in America, I maintained a strong relation with my alma mater, the American University of Beirut, returning frequently to teach renal physiology and nephrology. In 2000, I returned to chair the Department of Internal Medicine. As administrative challenges and departmental duties increased, it seemed as if the nephrology phase of my career was slowly receding. In 2005, however, under dramatic circumstances that shook Lebanon and the world, nephrology 'recycled' back into my life.

As dictatorial regimes unravel, there are historical moments that, in retrospect, turn out to have been decisive in determining the outcome of the confrontation between the regime and its people. Such a moment came to Lebanon in March of 2005. After the assassination of Rafik Hariri

on February 14, the people took to the streets in what has become known as the Cedar Revolution and, through peaceful means, resisted attempts to terrorize them into submission. The confrontation reached its peak in the massive peace rally of March 14, which resulted in the collapse of the government, and a series of events culminating in the country's first free elections in decades. The Second Beirut Update in Nephrology, organized jointly by the Lebanese Society of Nephrology and Hypertension and the International Society of Nephrology's Commission on the Global Advancement of Nephrology (ISN-COMGAN), was prescheduled for March 18–20, 2005, which fell during the 'hottest' time of all!

Several international guest speakers had been invited, including Barry Brenner, Norbert Lameire and Jan Weening. The scientific program had attracted hundreds of participants from the Middle East. As events in Beirut unfolded on CNN, some speakers and many registrants understandably withdrew. Canceling the meeting seemed to be the most reasonable course of action. As Lebanese nephrologists who wanted to share in the struggle against tyranny, however, we were in no mood for retreat. In a historic meeting, the organizing committee voted unanimously to press ahead. Holding a scientific meeting on kidney disease had become an act of patriotism, a renal stand for freedom!

The first good news came from Barry Brenner, who announced in an email that, barring physical barriers against traveling to Beirut, he would be here to deliver two presentations. Jan Weening, Norbert Lameire and other friends from Europe soon joined Barry, expressing their determination to stand by us at this decisive moment. John Dirks continued to provide the crucial support of ISN-COMGAN, in words and in deeds, to assure that we went forward. The meeting was held on schedule. Despite an almost 50% reduction in the number of foreign attendees, it still attracted nearly 300 registrants, and most sessions were filled to capacity.

On the night of Friday the 18th, the first bomb struck. The collapsing regime had embarked on a series of nighttime acts of massive property destruction in commercial districts, aimed

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at justifying continued military dictatorship. That same night, Barry Brenner and some friends and I were having dinner at a restaurant only a few blocks away from the site of the blast. News of the bombing was carried all day Saturday on networks around the world, causing anxious family members in the United States and Europe to ask our speakers from those countries to return home. Despite the threat, and despite deep anxiety on our part and theirs, all speakers delivered their presentations as scheduled. The meeting proceeded as planned, complete with a Lebanese-style gala dinner on Saturday night. On Sunday morning, Jan Weening spoke on glomerular injury for three hours to a packed audience; the discussions were lively and long. By Sunday night, all speakers had returned safely home to their families.

By all accounts, the Second Beirut Update in Nephrology was one of the most successful renal meetings of its size to be held in the Arab Middle East. The reactions from our guests in the region were uniformly complimentary, with unanimous desire to return to Beirut for future meetings. The most heart-warming results of the meeting, however, were its repercussions among Lebanese nephrologists, who sensed, in the most concrete terms possible, the unswerving support of their friends in America and Europe. Without planning or intent, nephrology had played a modest role in resisting the tyranny of terror in Lebanon, and in the exhilarating and memorable spring of Beirut, 2005.

Finally, a closing note on future journeys: In the June 2005 issue of the *Journal of Clinical Investigation*,² Stacie Bloom reported in 'News' on the launching of the Genographic Project, a five-year \$40 million effort to map human migration from Africa across the globe through Y-chromosome and mitochondrial DNA marker

analysis. (For more information on this project, please explore <http://www.nationalgeographic.com/genographic>.) Thanks to nephrology, the American University of Beirut is one of ten research institutions constituting the global centers of the Genographic Project, alongside the Institut Pasteur, the Wellcome Trust Sanger Institute, the University of Pennsylvania and other prestigious institutes around the world. This is because the principal investigator, a geneticist, had been recruited to the Department of Internal Medicine in part because of our access to a population characterized by high consanguinity and a striking incidence of familial IgA nephropathy! Through successful collaboration with Columbia University, and ISN-funded fellowship training, we hope to identify new genetic alterations in this disease.

Discovering the history of human migration through genetic analysis is an exciting scientific adventure. However, the Genographic Project presents a unique opportunity to do much more. The excellent infrastructure that will obtain "the largest collection of human population genetic information"² affords an opportunity to address intriguing and pressing questions related to human biology and disease: Can we define a genetic basis for region-specific disease expression? (For example, why is autoimmune disease more prevalent and severe in colder climates than in the tropics?) What are the mechanisms of 'temperature-sensitive' gene expression? More boldly: How *does* climate talk to DNA? Suddenly, new frontiers are open. Who will cross them first? In Beirut, nephrologists, of course!

1 Baylis C, Brenner BM. The physiologic determinants of glomerular ultrafiltration. *Rev Physiol Biochem Pharmacol* 1978; **80**: 1–46.

2 Bloom S. Using genetics to unearth our path on earth. *J Clin Invest* 2005; **115**: 1395.